

DIFFUSION TRANSFER SYSTEM VERSUS CONVENTIONAL SYSTEM

Input-Output Discussion

Material flow charts for a conventional and a Diffusion Transfer photographic processing system are shown in Figure 9. For this comparison, it is assumed that the requirement is for the processing of a given quantity of exposed negative material from which a given number of duplicate transparencies are printed and processed.

With the conventional system, three major pieces of equipment are required: a processor/dryer (typically a VERSAMAT) for the exposed negative material, a printer (typically a NIAGARA) and a processor/dryer (also a VERSAMAT) for the exposed dupe stock. The principal inputs to this system, other than rolls of sensitized materials, are power, chemical mix, and wash water in large quantities. The chemical mix includes not only the initial tank solutions, but make-up and/or replenishment solutions as well. The chemical waste solutions from the processors are shown as an output. The volume of this waste under a steady-state condition will be, of course, equal to the sum total of wash water and replenisher, less that which is evaporated from the film emulsion in the dryer.

In the Diffusion Transfer processing system, the number of rolls of film-like material is increased, but power is reduced to a few kilowatts, chemical mix is eliminated, and water is reduced to a few gallons. The only waste output is the used DESIMAT tape.

A unique "output" from the Diffusion Transfer system is the cover-sheeted BIMAT film positive transparency from the BIMAT Laminator. Not only is this duplicate available sooner than a duplicate from the conventional system, but it can reduce by one the number of duplicates required from the subsequent printing operation. In addition, the necessity to use the original negative under a time stress condition for a flash report is eliminated thus precluding the possibility of damage to the irreplaceable negative film.